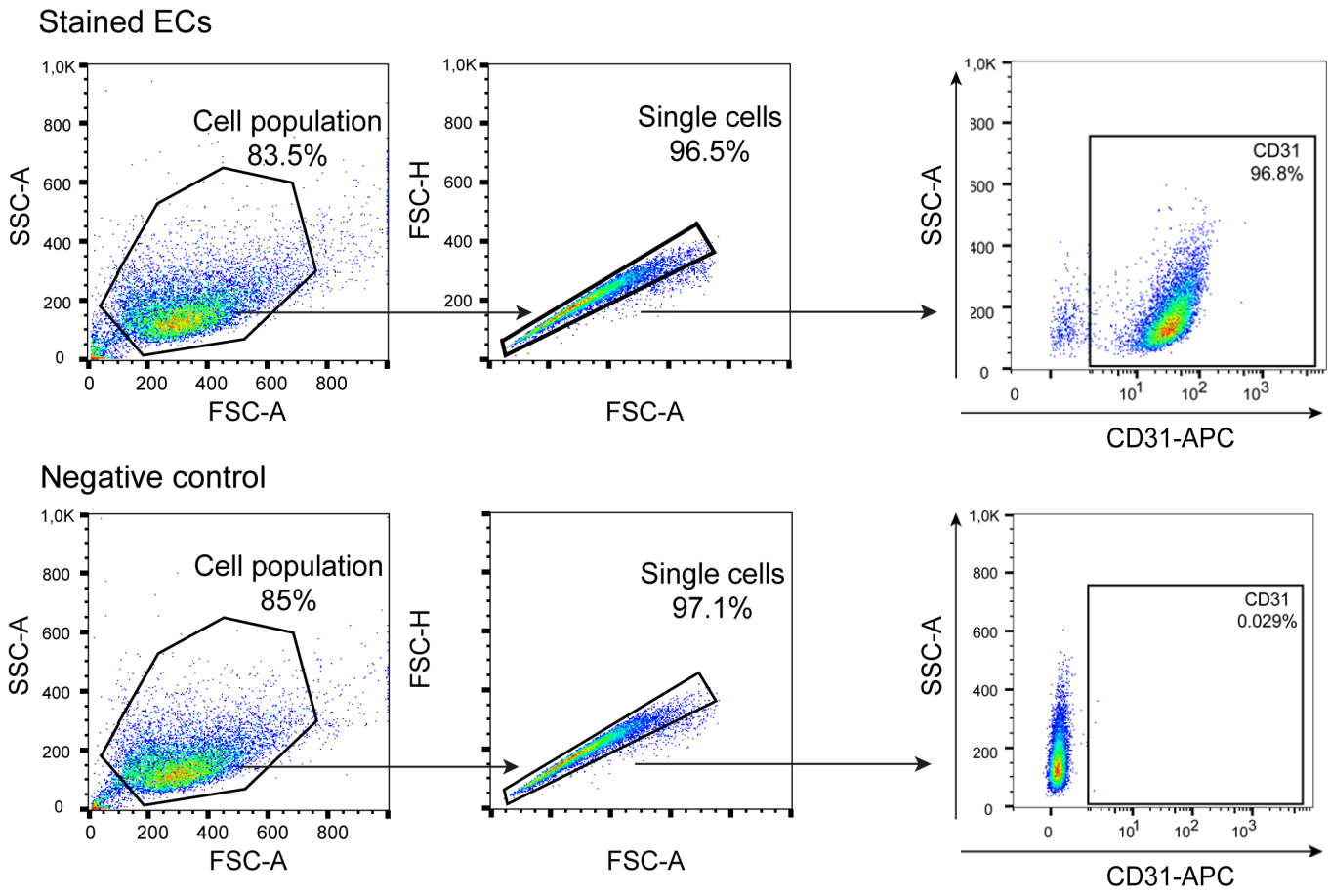
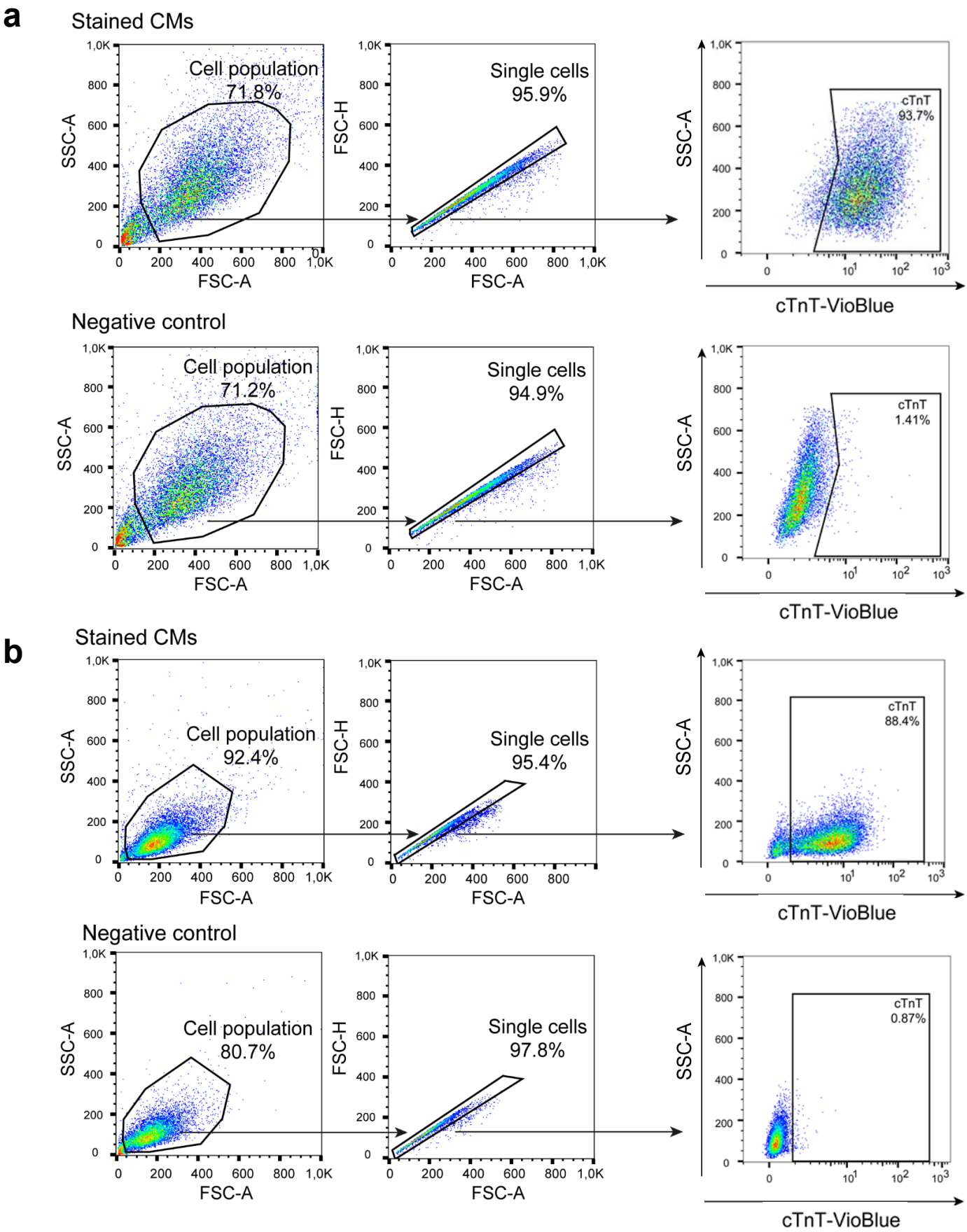
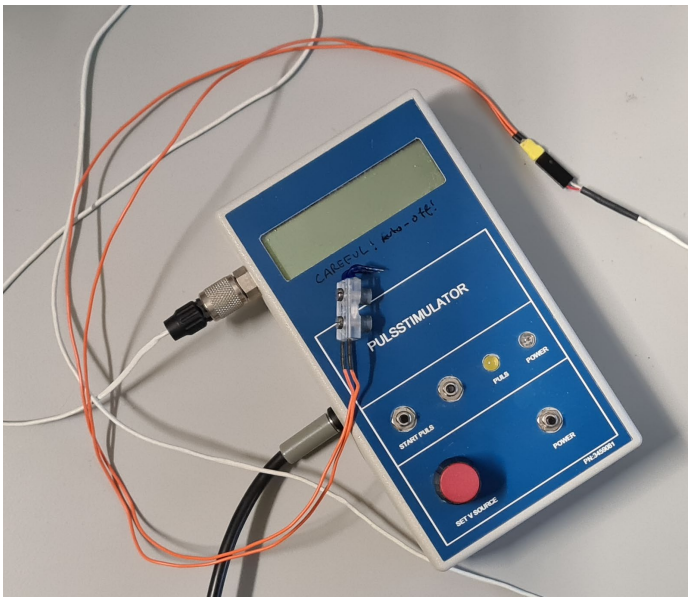


Supplementary Figure 1: Gating strategy used for FACS analysis of hiPSC-ECs. (**a**) Forward and side scatter dot plots showing the starting cell population, (**b**) the gating to discriminate single cells and (**c**) the gating to isolate CD43-APC positive cells with the help of cells stained with isotype control (APC). The percentage of the relevant cell populations are provided. Cells were acquired with a MACSQuant VYB (Miltenyi Biotech) and analyzed with FlowJo Software.

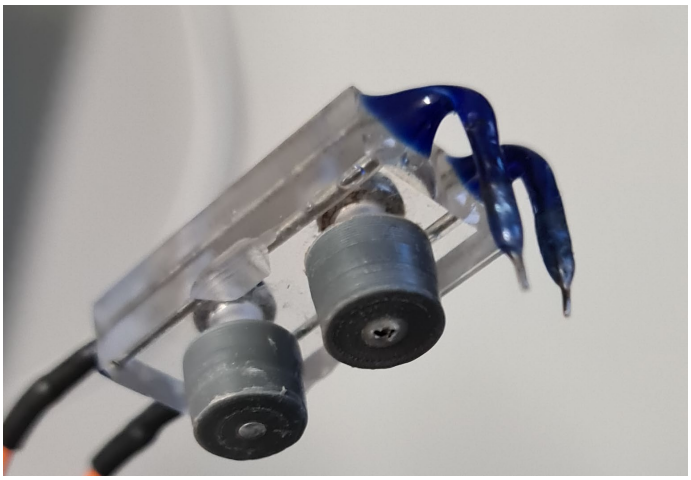


Supplementary Figure 2: Gating strategy used for FACS analysis of hiPSC-CMs. (**a**) Forward and side scatter dot plots showing the starting cell population, (**b**) the gating to discriminate single cells and (**c**) the gating to isolate TNNT-VioBlue positive cells with the help of unstained cells (mBEL) or cells stained with isotype control (VioBlue). The percentage of the relevant cell populations are provided. Cells were acquired with a MACSQuant VYB (Miltenyi Biotech) and analyzed with FlowJo Software.

a



b



Supplementary Figure 3: Equipment used for electrical pacing of cardiac MTs. (**a**) Pulse stimulator connected to custom-made electrodes fitting the V-shaped 96-wells and (**b**) details of custom-made electrodes.